HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10992635-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Preeti N. Bhoj et al.

Confirmation No.: 2447

Application No.: 09/545,394

Examiner: Larry D. Donaghue

Filing Date: 4/7/2000

Group Art Unit: 2154

Title: ADAPTIVE ADMISSION CONTROL SYSTEM FOR A SERVER APPLICATION SYSTEM

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TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on Dec. 14, 2004 and Notification of Non-Compliant Appeal Brief mailed on February 28, 2005.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) $500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

( ) (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

( )	one month	$120.00
( )	two months	$450.00
( )	three months	$1020.00
( )	four months	$1590.00

( ) The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

(X) If the Appeal Brief fee has not already been paid, Please charge to Deposit Account 08-2025 the sum of $500.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

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Number of pages: 21

Typed Name: Vickie Ishimaru

Signature: Vickie Ishimaru

Respectfully submitted,

Preeti N. Bhoj et al.

By Mikio Ishimaru

Mikio Ishimaru

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Reg. No. 27,449

Date: March 28, 2005

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Reg. No. **27,449**

Date: **March 28, 2005**

Telephone No.: **(408) 738-0592**

Docket No.: 10992635-1 ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Preeti N. Bhoj et al.	:	Confirmation No.:	2447
Serial No.:	09/545,394	:	Art Unit:	2154
Filed:	4/7/2000	:	Examiner:	Larry D. Donaghue
For:	ADAPTIVE ADMISSION CONTROL SYSTEM FOR A SERVER APPLICATION SYSTEM	:		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

The following new Appeal Brief is submitted in response to the Notice of Non-Compliant Appeal Brief (37 CFR 41.37) dated February 28, 2005, which was issued in response to an Appeal Brief filed February 14, 2005, in the above-identified Application. The previously filed Appeal Brief has been modified to comply with 37 CFR 41.37(c)(1)(iv).

(1) ***Real party in interest:***

The real party in interest is Hewlett-Packard Development Company, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas.

(2) ***Related appeals and interferences:***

There are no known related appeal or interference cases.

Serial No.: 09/545,394
Group Art Unit: 2174

(3) *Status of claims:*

Claims 1-18, the only claims pending, stand under final rejection, from which rejection this Appeal is taken.

(4) *Status of amendments:*

No amendments have been filed subsequent to the final rejection of July 14, 2004.

(5) *Summary of the invention:*

An adaptive admission control system [43] is provided for a server application system [40]. The adaptive admission control system [43] includes a request queue [53] that stores incoming requests before they are serviced by the server application. A discard queue [51] is provided to store requests to be discarded. An actuator [52] is coupled to the request queue [53], the discard queue [51], and an external listen queue [42] to determine the input rate of requests from the listen queue [42] during previous processing cycles. A controller [54] is coupled to the actuator [52] and the request queue [53] to determine a target number of requests to be sent to the request queue [53] during the next processing cycle based on the difference between the actual and desired queue occupancy of the request queue [53]. The controller [54] sends the target number to the actuator [52]. The actuator [52] sends the target number of requests to the request queue [53] either from the listen queue [42] or from the listen queue [42] and the discard queue [51] based on the input rate of requests from the listen queue [42].

1. An adaptive admission control system [43] for a server application system [40], comprising:

a request queue [53] that stores incoming requests before the incoming requests are serviced by the server application system [40]; [page 7, lines 9-10]

a discard queue [51] that stores requests; [page 7, lines 10-12]

an actuator [52] coupled to the request queue [53] and the discard queue [51] to determine the input rate of the incoming requests during a processing cycle, and to send a target number of requests to the request queue [53] and a remaining number of requests to the discard queue [51] during the next processing cycle; [page 7, lines 14-16]

a controller [54] coupled to the actuator [52] and the request queue [53] to determine the target number based on the difference between actual and desired queue occupancy of the request queue [53]. [page 7, lines 16-22]

2. The adaptive admission control system [43] of claim 1, wherein the actuator [52] sends the target number of requests to the request queue [53] and the remaining number of requests to the discard queue [51] during the next processing cycle if the input rate is greater than or equal to the target number of requests. [page 7, lines 14-21]

3. The adaptive admission control system [43] of claim 2, wherein the actuator [52] randomly determines which requests are to be sent to the request queue [53] and which requests are to be sent to the discard queue [51] so long as the total number of the requests sent to the request queue [53] is equal to the target number. [page 8, lines 3-11]

4. The adaptive admission control system [43] of claim 3, wherein the actuator [52] determines if the incoming request is a new session request and sends an existing session request from the discard queue [51] to the request queue [53] when the discard queue [51] contains the existing session request and sends the new session request to the discard queue [51]. [page 8, lines 6-11]

5. The adaptive admission control system [43] of claim 1, including a listen queue [42] connected to the actuator [52] and wherein the actuator [52] sends the target number of requests from both the listen queue [42] and the discard queue [51] to the request queue [53] if the input rate is less than the target number. [page 8, lines 12-16]

6. The adaptive admission control system [43] of claim 5, wherein the actuator [52] retrieves requests from the discard queue [51] by first pulling requests from an existing session queue of the discard queue [51]. [page 8, lines 14-16]

7. The adaptive admission control system [43] of claim 1, wherein the discard queue [51] further comprises an existing session request discard queue [51b] and a new session request discard queue [51a]. [page 7, lines 10-12]

8. The adaptive admission control system [43] of claim 7, wherein the discard queue [51] is cleaned up after every predetermined number of processing cycles. [page 8, lines 16-17]

9. A server application system [40], comprising:

a server application module [44] that performs predetermined server functions based on external requests from an external listen queue [42]; [page 8, lines 18-22]

an adaptive admission control system [43] that controls admission to the server application module [44], wherein the adaptive admission control system [43] further comprises

a request queue [53] that stores incoming requests before they are serviced by the server application system [40];

a discard queue [51] that stores requests;

an actuator [52] coupled to the request queue [53], the discard queue [51], and the external listen queue [42] to determine the input rate of incoming requests received from the external listen queue [42] during a previous processing cycles, and to send a target number of requests to the request queue [53] from the listen queue [42] and the discard queue [51] during the next processing cycle; [page 7, line 16, through page 8, line 17]

a controller [54] coupled to the actuator [52] and the queue to determine the target number based on the difference between actual and desired queue occupancy of the request queue [53]. [page 8, line 21, through page 9, line 7]

10. The server application system [40] of claim 9, wherein the actuator [52] sends the target number of requests from the external listen queue [42] to the request queue [53] and the remaining requests to the discard queue [51] during the next processing cycle if the input rate is greater than or equal to the target number. [page 8, lines 3-11]

11. The server application system [40] of claim 10, wherein the actuator [52] randomly determines which requests are to be sent to the request queue [53] and which requests are to be sent to the discard queue [51] so long as the total number of the requests sent to the request queue [53] is equal to the target number. [page 8, lines 6-11]

12. The server application system [40] of claim 11, wherein the actuator [52] determines if the incoming request is a new session request and sends an existing session request from the discard queue [51] to the request queue [53] when the discard queue [51] contains the existing session request and sends the new session request to the discard queue [51]. [page 8, lines 6-11]

13. The server application system [40] of claim 9, wherein the actuator [52] sends the target number of requests from both the external listen queue [42] and the discard queue [51] to the request queue [53] if the input rate is less than the target number. [page 16, lines 3-8]

14. The server application system [40] of claim 13, wherein the actuator [52] retrieves requests from the discard queue [51] by first pulling requests from an existing session queue of the discard queue [51]. [page 15, lines 12-20]

15. The server application system [40] of claim 9, wherein the discard queue [51] further comprises an existing session request discard queue [51b] and a new session request discard queue [51a]. [page 15, lines 3-9]

16. The server application system [40] of claim 15, wherein the discard queue [51] is cleaned up after every predetermined number of processing cycles. [page 15, lines 9-11]

17. The server application system [40] of claim 9, wherein the server application module [44] is a TCP/IP-based server application. [page 9, lines 11-12]

18. The server application system [40] of claim 9, wherein the server application module [44] is a web server application. [page 9, lines 13-16]

(6) Grounds for Rejections:

Issue #1:

Whether claims 1-16 are patentable under 35 USC §103(a) as being unobvious over Smith, (USPN 5,878,224, hereinafter "Smith") in view of Rawson, III et al, (USPN 5,265,252, hereinafter "Rawson").

Issue #2:

Whether claims 17-18 are patentable under 35 USC §103(a) as being unobvious over Smith in view of Rawson further in view of the Appellants Admitted Prior Art (hereinafter "AAPA").

Serial No.: 09/545,394
Group Art Unit: 2174

(7) ***Arguments:***

Issue #1:

Summary of Smith:

Smith teaches an apparatus and method for preventing overload of a network server by messages received from a source initiating network server transactions. The method and apparatus use available network traffic measurements to estimate target transaction rates and admission factors, and . . . reducing a rate at which new transactions are initiated by the source to match the incoming transaction workload to the target workload when the offered transaction workload exceeds a threshold.

Summary of Rawson:

Rawson teaches a device driver system with a core that manages the specific functions of a plurality of I/O devices responding to requests from application programs. An operating system has a device driver interface that is unique to the operating system. A conversion program is layered between the core and the operating system for converting communications between the device driver interface of the operating system and the generic operating system interface of the core. The core includes a channel manager including a request dispatcher, request queues, a command initiator, and a plurality of state machines corresponding to state machine in the I/O devices. A transport layer interfaces between the hardware and the channel manager.

Regarding claims 1 and 9, Appellants respectfully traversed the rejections since the Appellants' claimed combination, as exemplified in claim 1, includes the limitations not disclosed in Smith or Rawson of:

> "An adaptive admission control system for a server application system, comprising:
> a request queue that stores incoming requests before the incoming requests are serviced by the server application;
> a discard queue that stores requests;
> an actuator coupled to the request queue and the discard queue to determine the input rate of the incoming requests during a processing cycle,

> and to send a target number of requests to the request queue and a remaining number of requests to the discard queue during the next processing cycle;
>
> a controller coupled to the actuator and the request queue to determine the target number based on the difference between actual and desired queue occupancy of the request queue."

Smith teaches a source control system where network traffic measurements are used to reduce the new transactions from the source to the application rather than sending the new transactions from the source to different queues at the application.

Rawson teaches a system where requests from an application program are converted for controlling different input/output (I/O) devices rather than sending requests to different queues before processing by the application.

Taken as a whole, Smith and Rawson in combination do not teach or suggest the claimed elements for sending requests to different queues

It is respectfully submitted that claims 1-9 are allowable under 35 USC §103(a) as being unobvious over Smith in view of Rawson because the Court of Appeals for the Federal Circuit (CAFC) has stated:

> "[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re* Vaeck, 947 F2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)

Further, Smith teaches reduction of new transactions from a source while Rawson teaches conversion or translation of new transactions so the two references teach away from each other.

Thus, it is respectfully submitted that claims 1-9 are allowable under 35 USC §103(a) as being unobvious over Smith in view of Rawson because the CAFC has stated:

> "We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness..." *In re* Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)

Still further, combining Smith and Rawson would provide an inoperative system where new transactions would be reduced but converted so they would be different from those required by the Smith application.

It is respectfully submitted that claims 1-9 are allowable under 35 USC §103(a) as being unobvious over Smith in view of Rawson because the Court of Appeals for the Federal Circuit (CAFC) has stated:

> "If references taken in combination would produce a "seemingly inoperative device, " we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facia case of obviousness." *In re* Gordon, *supra*.

Furthermore, there has been no showing that there is a specific hint, suggestion, or motivation in either Smith or Rawson that would lead to the combination. In *In re* Sang-Su Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), the CAFC held that the conclusion of obviousness may not be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion *in a particular reference*.

In addition, the Examiner has indicated in the Office Action with regard to Smith:

> "a request/listen queue (read mass storage as queue) that stores incoming requests before they are serviced by the server application (402, Fig. 4);" [page 2, item 3. 2nd paragraph]

There is no basis for reading "mass storage" as "queue". These are two different types of devices. Appellants respectfully requested documentary evidence pursuant to MPEP §2144.03 and an Examiner Affidavit pursuant to 37 CFR §1.104(d)(2) (2002) disclosing the Examiner's personal knowledge for the basis of this reading. Since this request was not responded to, it is respectfully submitted that a prima facie case for obviousness has not been established.

Finally, with regard to Smith, the Examiner has indicated in the Office Action that:

> "an actuator coupled to the queue to determine the input rate of requests from the listen queue during previous processing cycles, to send a target number of requests to the request queue from the listen queue and the discard queue during the next processing cycle and a controller coupled to the actuator and the request queue to determine the target number based on the difference between the actual and the desired queue occupancy of the request queue (Fig. 4, 400; col. 2, lines 50-61)." [page 2, item 3, 3rd paragraph]

However, Smith Fig. 4, 400; col. 2, lines 50-61, actually teaches differently by stating:

> "The present invention overcomes the limitations of conventional techniques by implementing a method...[of] reducing a rate at which new transactions are initiated by the source to match the incoming transaction workload to the target workload when the offered transaction workload exceeds a threshold." [deletion, insertion, and underlining for clarity]

With regard to Rawson, the Examiner has indicated in the Office Action on page 3, item 4, 1st paragraph:

> "However, Rawson teaches a discard queue (card request queue) that stores requests to be discarded (col. 5, lines 38-44)."

However, Rawson col. 5, lines 38-44, when taken as a whole, teaches the processing of application program commands to various I/O devices rather than requests to be serviced by a server application. This is made clear in Rawson col. 4, lines 3-5:

> "Referring to FIG. 2, application programs 16 access I/O devices 32-35 by issuing I/O requests as system calls 43 to the operating system." [underlining for clarity]

Further, regarding claims 1 and 9 in the Final Rejection, the Examiner states:

"1. In the remarks, applicant has argued in substance that:..."

Appellants respectfully disagree. The Examiner has misstated the substance of Appellants' arguments and has not addressed the substance of the Appellants' actual arguments presented above. To the extent that the Examiner has commented, the Appellants respectfully responded as indicated below.

The Examiner states in the Final Rejection:

> "As to point (1), the applicant's claimed invention, similar to Rawson, is a source control system. The new transactions are initiated by the source (Claim 1, lines 1-13)."

Appellants respectfully disagree. It is respectfully submitted that the preamble of claim 1 states:

> "1. An adaptive admission control system for a server application system, comprising:" [underlining for clarity]

As is well known to those having ordinary skill in the art, a source provides requests for a server application system, which is a different system. Thus, a control system for a source does not control a server application system.

The Examiner states in the Final Rejection:

> "As to point (2), Rawson teaches a system in which requests from a source are sent to different queues, however, the requests are directed from *one originating queue* as the claimed invention suggests (col. 5, lines 25-45, Fig. 3)." [italics in original]

It is respectfully submitted that Rawson specifically teaches away from the claimed invention in which "an actuator...during a processing cycle...send requests to the request queue and...remaining...requests to the discard queue during the next processing cycle..." by stating in Rawson col. 5, lines 42-44:

> "If the adapter is too busy, the excess requests 102 are placed in a card request queue 100 until such time as they can be processed."

Contrary to the Examiner's argument, the above teaches that Rawson requests from the source are either processed by the adapter or placed in the single card request queue; i.e., Rawson does not teach a system in which requests from a source are sent to different queues.

The Examiner states in the Final Rejection:

> "As to point (3), FOLDOC Dictionary of Computing defines storage to be any device into which data can be entered, in which they can be held, and from which they can be retrieved at a later time. A queue is also considered to be such a structure, into which data can be entered and drawn out of."

It is respectfully submitted that the above does not disclose or teach that the Smith "mass storage" is used as a "queue". The FOLDOC Dictionary of Computing defines "Queue" as:

> "A first-in first-out data structure used to sequence multiple demands for a resource such as a printer, processor or communications channel. Objects are added to the tail of the queue and taken off the head."

Assuming *arguendo* that the Smith "mass storage" has the capability of performing a queue type function, it is not inherent in Smith, and MPEP §2112 states:

> "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re* Rijckaert, 9 F.3d 1531, 1534, 28 USPQ 2d 1955, 1957

> (Fed. Cir. 1993)(reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art)."

Since there is no teaching or suggestion that the Smith "mass storage" provides the first-in first-out data structure of a "queue" as claimed, it is submitted that the requested documentary evidence pursuant to MPEP §2144.03 has not been provided, or at least is not adequate to meet the requirements of MPEP §2144.03, and an Examiner Affidavit pursuant to 37 CFR §1.104(d)(2) (2002) disclosing the Examiner's personal knowledge for the basis of this reading has not been provided. Since this request has not been properly responded to, it is respectfully submitted that a prima facie case for obviousness has not been established.

The Examiner states in the Final Rejection:

> "As to point (4), the Examiner has interpreted a discard queue to refer to immediately unprocessed "discarded" requests, similar to the card request queue of the Rawson system (col. 5, lines 42-44)."

It is respectfully submitted that "discard" is defined as:

> "to cast aside or dispose of; get rid of" Random House Webster's College Dictionary, p. 383, Random House Inc., c. 1996, 1995, 1992, 1991.

Since Rawson col. 5, lines 42-44, indicates that the requests are not discarded but are held "until such time as they can be processed", the Examiner's interpretation is contrary to the ordinary meaning of the word. It is respectfully submitted that while applicants are their own lexicographers, Examiners are not their own lexicographers when interpreting claims.

Regarding claims 2 and 10, as explained above, Smith col. 2, lines 50-61, actually teaches away from the claimed limitation because Smith reduces the number of source requests. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra*.

Further, regarding claims 2 and 10, The Examiner states in the Final Rejection:

> "As to point (5), Smith reduces the number of source requests, however, the claimed invention similarly sends the target number of requests

> to the request queue and any remaining requests to the discard queue, thereby reducing the number of source requests processed."

It is respectfully submitted that the Examiner is apparently reading Smith on the claimed invention rather than the claimed invention on Smith, as is proper. Claims 2 and 10 do not reduce the number of source requests as shown by the claim language exemplified in claim 2:

> "the actuator sends the target number of requests to the request queue and the remaining number of requests to the discard queue during the next processing cycle if the input rate is greater than or equal to the target number of requests."

Regarding claims 3 and 11, as explained above, Rawson col. 5, lines 38-49, when taken as a whole, teaches the processing of application program commands to various I/O devices and teaches away from requests being serviced by a server application. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra*.

Further, regarding claims 3, 5, 11, and 13, the Examiner states in the Final Rejection:

> "As to point (6), the processing of the requests is passed from the request dispatcher to the server application side command initiator (fig. 3). Rawson's system does include the step of processing being serviced by the server application."

Rawson does not have a server application, nor is one shown in Rawson FIG. 3. Appellants respectfully requested citation of the column and line numbers, which the Examiner believes describes a server application pursuant to 37 CFR §1.104(c)(2), which specifies:

> "In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."[underlining for clarity]

As stated by the CAFC:

> "[t]he examiner cannot sit mum, leaving the applicant to shoot arrows in the dark hoping to somehow hit a secret objection harbored by the examiner. The prima facie case notion...seemingly was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the prima facie case) to patentability and give the applicant fair opportunity to meet those objections with evidence and argument. To that extent the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness." *In re* Oetiker, 977 F.2d 1443, 24 USPQ 2d 1443, 1447 (Fed. Cir. 1992)

Since the Examiner failed to respond, a prima facie case has not been established as to claims 3, 5, 11, and 13.

Appellants respectfully further clarify this argument to specify that Smith and Rawson, taken as a whole, do not teach or suggest the claimed request queue, discard queue, listen queue, target number, random determination, or external listen queue as claimed in claims 3, 5, 11, and 13.

Regarding claims 4 and 12, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra.*

Regarding claims 5 and 13, as explained above, Rawson col. 5, lines 38-49, when taken as a whole, teaches the processing of application program commands to various I/O devices and teaches away from requests being serviced by a server application. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra.*

Regarding claims 6 and 14, as explained above, both Smith and Rawson teach away from the invention and each other, and the references in combination would appear to produce a seemingly inoperative device so as to be an unobvious combination under *In re* Gordon, supra. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra.*

Further, regarding claims 6 and 14, the Examiner states in the Final Rejection:

> "As to point (7), Smith and Rawson teach queueing systems of receiving and processing requests in an organized manner (Rawson, col. 5, lines 25-49, Smith, col. 2, lines 50-62)."

It is respectfully submitted that the references as a whole teach away from the claimed combination, as explained above for claims 6 and 14. The Examiner has taken only portions of Smith and Rawson for combination and this is impermissible because the CAFC has stated:

> "One cannot...pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re* Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

As explained further by the CAFC:

> "It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re* Fritch, supra.

Regarding claims 7 and 15, it is respectfully submitted that Rawson deals with requests from application programs to operate I/O devices, so there are no "sessions" involved and therefore, no existing session request discard queue or a new session request discard queue are taught or suggested. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, *supra*.

Further, regarding claims 7 and 15, the Examiner states in the Final Rejection:

> "As to point (8), the claimed invention discloses the existence of a "new session queue" and an "existing session request discard queue." However, no disclosure is made to indicate that there are a multitude of "sessions" rather and an ongoing existence of the disclosed queues. Further, the examiner has interpreted every set of requests in Rawson to be a queue (col. 5, lines 25-49). The actual, physical queues of Rawson (and the claimed inventions) are not created in independent "sessions." They have allocated physical space and exist regardless of the sessions involved."

It is respectfully submitted that the Examiner is reading Rawson on the claimed invention rather than the claimed invention on Rawson. A claimed invention does not "disclose" or provide a "disclosure". The question is whether claims 7 and 15 "read" on the references such that the references have the claimed elements. Claims 7 and 15, as exemplified by claim 7, require:

"an existing session request discard queue and a new session request discard queue."

These claimed elements do not read on the combination of Smith or Rawson and are not taught or suggested by these references, singularly or in combination. Thus, claims 7 and 15 are unobvious under 35 USC §103(a) over Smith in view of Rawson.

Regarding claims 8 and 16, as explained above, both Smith and Rawson teach away from the invention and each other, and the references in combination would appear to produce a seemingly inoperative device so as to be an unobvious combination under *In re* Gordon, *supra*. Further, there has been no showing that there is a specific hint or suggestion in either reference that would lead to the combination as required by *In re* Sang-Su Lee, supra. Still further, in Rawson, there is no reason why it would be necessary for a queue to be cleaned up since no "sessions", which could become stale, are involved.

Based on the above, it is respectfully submitted that claims 1-16 are unobvious under 35 USC §103(a) and are patentable over Smith in view of Rawson.

Issue #2:

Summary of Smith:

Provided for Issue #1

Summary of Rawson:

Provided for Issue #1.

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Group Art Unit: 2174

Summary of AAPA:

AAPA teaches a session-based admission control that performs admission control on incoming user sessions rather than on individual user requests.

Regarding claims 17 and 18, as explained above, both Smith and Rawson teach away from the invention and each other, and the references in combination would appear to produce a seemingly inoperative device so as to be an unobvious combination under *In re* Gordon, supra. Further, there has been no showing that there is a specific hint or suggestion in Smith, Rawson, or AAPA that would lead to the combination as required by *In re* Sang-Su Lee, supra.

Based on the above, it is respectfully submitted that claims 17-18 are unobvious under 35 USC §103(a) and are patentable over Smith in view of Rawson and further in view of AAPA.

(8) ***Conclusion and Relief Requested:***

Claims 1-18 are patentable over the prior art.

Reversal of the Examiner's decision is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Appendix I – Claims on Appeal (on following page)

Serial No.: 09/545,394
Group Art Unit: 2174

CLAIMS ON APPEAL

1. An adaptive admission control system for a server application system, comprising:

a request queue that stores incoming requests before the incoming requests are serviced by the server application system;

a discard queue that stores requests;

an actuator coupled to the request queue and the discard queue to determine the input rate of the incoming requests during a processing cycle, and to send a target number of requests to the request queue and a remaining number of requests to the discard queue during the next processing cycle;

a controller coupled to the actuator and the request queue to determine the target number based on the difference between actual and desired queue occupancy of the request queue.

2. The adaptive admission control system of claim 1, wherein the actuator sends the target number of requests to the request queue and the remaining number of requests to the discard queue during the next processing cycle if the input rate is greater than or equal to the target number of requests.

3. The adaptive admission control system of claim 2, wherein the actuator randomly determines which requests are to be sent to the request queue and which requests are to be sent to the discard queue so long as the total number of the requests sent to the request queue is equal to the target number.

4. The adaptive admission control system of claim 3, wherein the actuator determines if the incoming request is a new session request and sends an existing session request from the discard queue to the request queue when the discard queue contains the existing session request and sends the new session request to the discard queue.

5. The adaptive admission control system of claim 1, including a listen queue connected to the actuator and wherein the actuator sends the target number of requests from both the listen queue and the discard queue to the request queue if the input rate is less than the target number.

6. The adaptive admission control system of claim 5, wherein the actuator retrieves requests from the discard queue by first pulling requests from an existing session queue of the discard queue.

7. The adaptive admission control system of claim 1, wherein the discard queue further comprises an existing session request discard queue and a new session request discard queue.

8. The adaptive admission control system of claim 7, wherein the discard queue is cleaned up after every predetermined number of processing cycles.

9. A server application system, comprising:

a server application module that performs predetermined server functions based on external requests from an external listen queue;

an adaptive admission control system that controls admission to the server application module, wherein the adaptive admission control system further comprises

a request queue that stores incoming requests before they are serviced by the server application system;

a discard queue that stores requests;

an actuator coupled to the request queue, the discard queue, and the external listen queue to determine the input rate of incoming requests received from the external listen queue during a previous processing cycles, and to send a target number of requests to the request queue from the listen queue and the discard queue during the next processing cycle;

a controller coupled to the actuator and the queue to determine the target number based on the difference between actual and desired queue occupancy of the request queue.

10. The server application system of claim 9, wherein the actuator sends the target number of requests from the external listen queue to the request queue and the remaining requests to the discard queue during the next processing cycle if the input rate is greater than or equal to the target number.

11. The server application system of claim 10, wherein the actuator randomly determines which requests are to be sent to the request queue and which requests are to be

sent to the discard queue so long as the total number of the requests sent to the request queue is equal to the target number.

12. The server application system of claim 11, wherein the actuator determines if the incoming request is a new session request and sends an existing session request from the discard queue to the request queue when the discard queue contains the existing session request and sends the new session request to the discard queue.

13. The server application system of claim 9, wherein the actuator sends the target number of requests from both the external listen queue and the discard queue to the request queue if the input rate is less than the target number.

14. The server application system of claim 13, wherein the actuator retrieves requests from the discard queue by first pulling requests from an existing session queue of the discard queue.

15. The server application system of claim 9, wherein the discard queue further comprises an existing session request discard queue and a new session request discard queue.

16. The server application system of claim 15, wherein the discard queue is cleaned up after every predetermined number of processing cycles.

17. The server application system of claim 9, wherein the server application module is a TCP/IP-based server application.

18. The server application system of claim 9, wherein the server application module is a web server application.